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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,101	08/23/2001	Everett R. Geis		1925

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Rachele Wittwer
IRELL & MANELLA LLP
1800 Avenue of the Stars, Suite 900
Los Angeles, CA 90067

EXAMINER

GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 06/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/938,101

Applicant(s)

GEIS, EVERETT R.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: base 2, ethernet 10, DC bus 66, maintenance port 250, "power-up" state 322, load converter 192, power up state 322. Correction is required.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "18" has been used to designate both energy component and HEV battery. Character "12" has been used to designate both turbogenerator/motor and energy component. Character "94" has been used to designate both generator controller and generator converter. Character "10" has been used to designate both power controller and ethernet. Character "246" has been used to designate both smart fuel control and external port bus. Character "334" has been used to designate both "fault" state and "stand by" state. Correction is required.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "335" and "336" have both been used to designate "disable". Correction is required.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: In figure 6, reference numbers 134, 144 and in figure 10, reference numbers 450, 60, 474, 480, 462. In figure 7, reference numbers 182, 204, 216, 196. Also, figures 7 and 3 are blurry. Correction is required.

5. The drawings are objected to because in figure 8, reference number 246 describes smart fuel control and also external option port. Also the block symbol number for the maintenance port is unclear in figure 8. In figure 9, the "power up" state has reference number 332, but in the specs it is referred as "cool down" state. Correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2, 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2, applicant refers to a permanent magnet turbogenerator/motor. Is applicant referring that the whole

generator/motor is magnetized or some parts of the generator/motor are made out of magnets?

In reference to claims 7 and 8, applicant discloses that the power controller is able to detect transients associated with the turbogenerator/motor and the battery. What are these transients? How are the controllers (converters) detecting these transients? Could these means to detect transients be shown in the drawings?

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grayer et al in view of Koike et al and Bakholdin et al.

Grayer et al discloses a hybrid vehicle comprising a generator/motor 3; a DC bus 12; a first power converter 6c connecting generator/motor and DC bus 12, serving as a AC to DC converter and as a DC to AC converter.

Also, a battery 4 is disclosed, a second power converter 6a connecting the battery 4 and the DC bus 12 (see figure 2). Moreover, the generator/motor is a permanent magnet generator/motor (column 4, lines 47-49). Also, it is taught that a load may be in connection with the DC bus whenever the DC bus exceeds a desired voltage (see abstract & column 2, lines 10- 12). Grayer also teaches that a flywheel 2b may be used as storage device.

Grayer et al discloses inherently that the AC to DC converter may function as a DC to AC converter since the generator 3 is also used as a motor.

However, Grayer et al does not disclose explicitly that a converter may function as an AC/DC converter or as a DC/AC converter.

On the other hand, Koike et al discloses for the purpose of increasing the charging efficiency of a vehicle battery that the converter may function as an AC/DC or DC/AC depending on a particular need (see abstract).

However, neither Grayer nor Koike disclose using a turbogenerator in a hybrid vehicle.

On the other hand, Bakholdin et al discloses for the purpose of providing an efficient cooling system for a motor-generator that a turbogenerator 3 is disclosed to function in a hybrid vehicle and that a flywheel is used as a storage means (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a hybrid vehicle as disclose by Grayer et al and to modify the invention by explicitly disclosing a converter that functions both ways for the purpose of increasing the charging efficiency of a vehicle battery as disclosed by Koike and to use a turbogenerator in a hybrid vehicle for the purpose of providing an efficient cooling system for a motor-generator as disclosed by Bakholdin et al.

10. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grayer et al, Koike et al and Bakholding et al as applied to claims 1 and 4 above, and further in view of Yamaguchi.

The combined hybrid vehicle discloses all of the elements above. However, the combined hybrid vehicle does not disclose that capacitors may be used as storage means.

On the other hand, Yamaguchi discloses for the purpose increasing the efficiency of fuel consumption of a vehicle that a battery, a flywheel and capacitors may be used as storage means (column 14, lines 20-28, 36-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined hybrid vehicle as disclose above and to modify the invention by using a capacitor as storage means for the purpose

increasing the efficiency of fuel consumption of a vehicle as disclosed by Yamaguchi.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Jcg

May 29, 2002